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Subject: 10/702,346— Bratek, et al. Confirmation No.: 8107

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	Application Number	10/702,346
	Filing Date	November 6, 2003
	First Named Inventor	Bratek, Daniel J.
	Group Art Unit	3726
	Examiner Name	Jermie E. Cozart
	Attorney Docket Number	IS01350AP

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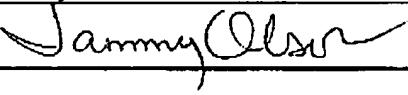
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UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT(S)	DAVID J. BRATEK	GROUP ART	3726
		UNIT:	
APPLN. NO.:	10/702,346	EXAMINER	COZART, JERMIE
		:	
FILED:	November 6, 2003	Confirmation No.	8107
TITLE:	HIGH PRESSURE SENSOR WITH KNUURL PRESS-FIT ASSEMBLY		

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Date of deposit: September 19, 2006

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APPEAL BRIEF

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is Appellants' Appeal Brief.

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Case No.: IS01350AP (6500/15)  
Serial No.: 10702,346  
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**1. REAL PARTY IN INTEREST**

This application is subject to an agreement assigning all rights, title & interest to Temic Automotive of North America, Inc. a subsidiary of Continental A.G., although no such assignment has been recorded to date.

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**2. RELATED APPEALS AND INTERFERENCES**

Appellants and the undersigned attorneys are not aware of any appeals or any interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

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3. STATUS OF CLAIMS

Claims 1-12 stand rejected and claims 13-16 were previously withdrawn based on a restriction requirement.

Claims 1-12 stand rejected as unpatentable under 35 U.S.C. §103(a) over Pepperling, 6,715,360 in view of Ito, 5,158,390.

Claims 1-12 are the claims on appeal. *See, Appendix.*

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4. STATUS OF AMENDMENTS

All amendments to the claims have been entered. Appellants' amendments to the specification have also been entered.

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#### S. SUMMARY OF CLAIMED SUBJECT MATTER

In this summary of claimed subject matter, all citations are to the specification of United States Patent Application 10/702,346 filed on November 6, 2003. Further, all citations are illustrative only and support for the cited element may be found elsewhere in the specification.

##### Independent Claim 1:

One aspect of the invention provides a method of assembling a high pressure sensor with a knurl press-fit for use in an automotive environment. The method includes providing (30) a pressure port 10 having a material with a first hardness and a housing 12 having a material with a second hardness less than the first hardness, the pressure port 10 having a mounting boss and the housing having a receptacle for receiving the mounting boss 14 and configuring (32) the mounting boss of the pressure port with knurls 16 thereon, the knurls 16 oriented parallel to an axis of the pressure port 10. In addition, the method includes pressing (34) the mounting boss 14 of the pressure port 10 into the receptacle 18 of the housing 12 along a direction of the axis such that the knurls 16 deform the receptacle 18 of the housing to conform about the knurls 16 to define a semi-rigid mount. See, e.g. FIG. 3 and pages 7-8 of the specification.

##### Independent Claim 8:

One aspect of the invention provides a method of assembling a high pressure sensor with a straight knurl press-fit for use in an automotive environment. The method includes providing (30) a pressure port 10 having a material with a first hardness and a housing 12 having a material with a second hardness less than the first hardness, the pressure port 10 having a mounting boss 14 and the housing 12 having a receptacle 18 for receiving the mounting boss 14. In addition, the method includes configuring (32) the mounting boss 14 of the pressure port 10 with straight knurls 16 thereon, the straight knurls 16 oriented parallel to an axis of the pressure port 10, the mounting boss 14 also configured with a shoulder 20 at a first end of the straight knurls 16 and pressing (34) the mounting boss 14 of the pressure port 10 into the receptacle 18 of the housing 12 along an axial direction of the pressure port 10 up to the shoulder 20 such that the straight knurls 16 deform the receptacle 18 of the housing 12 to conform about the straight knurls 16 to define a semi-rigid mount.

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**6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1-12 stand rejected as unpatentable under 35 U.S.C. §103(a) over Pepperling, 6,715,360 in view of Ito, 5,158,390.

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## 7. ARGUMENTS

The §103(a) rejection of claims 1-12 is traversed.

**Claims 1-12 stand rejected as unpatentable under 35 U.S.C. §103(a) over Pepperling, 6,715,360 in view of Ito, 5,158,390.**

To establish a prima facie case of obviousness, three basic criteria must be met. First, there *must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings*. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See, e.g. MPEP § 2143. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation).

It is respectfully submitted that in this matter, there can be no motivation to combine the references. First, Pepperling does not disclose that its method of joining the housing and sensor is anything less than optimal. Therefore, one of ordinary skill in the

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art would not be motivated to go looking for a better solution, regardless of whether such a solution is provided by Ito. Pepperling discloses that the sensor should be threaded or pressed into the housing (col. 3, lines 7-15), but does not indicate any defects with such attachment, or allege any disadvantage of such attachment. Thus, there can be no reason why one of ordinary skill in the art would be motivated to make any modifications to the Pepperling sensor.

This fact is further augmented by the fact that Ito does not allege that its jointing structure of rotor and shaft is an optimal method of supporting a pressure sensor within a housing. Indeed, the Examiner provides no evidence that those concerned with problems facing pressure sensor designers would consult rotor design references.

In fact, those of skill in the pressure sensor field would note that joints between a rotor and a shaft undergo torque forces as illustrated in Ito, FIGS 7 and 9. Such forces are quite dissimilar to the lateral forces that act on the claimed pressure sensor, as noted on page 5 of the specification. The Examiner provides no facts or evidence that a person of ordinary skill in the art would look to solutions for torquing forces when considering design problems for a part subjected to lateral forces.

Further, the modification suggested by the Examiner would render the prior art unsatisfactory for its intended purpose. If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) (Claimed device was a blood filter assembly for use during medical procedures wherein both the inlet and outlet for the blood were located at the bottom end of the filter assembly, and wherein a gas vent was present at the top of the filter assembly. The prior art reference taught a liquid strainer for removing dirt and water from gasoline and other light oils wherein the inlet and outlet were at the top of the device, and wherein a pet-cock (stopcock) was located at the bottom of the device for periodically removing the collected dirt and water. The reference further taught that the separation is assisted by gravity. The Board concluded the claims were prima facie obvious, reasoning that it would have been obvious to turn the reference device upside down. The court reversed, finding that if the prior art device was turned upside down it would be inoperable for its intended purpose because the gasoline to be filtered would be trapped at the top, the water and heavier oils sought to be separated

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would flow out of the outlet instead of the purified gasoline, and the screen would become clogged.).

In this case, and as noted by the specification, the sensor assembly must be able to “allow[s] some lateral movement to prevent mounting stress sensor error.” See, specification, page 3, lines 15-19. In contrast, the Ito reference aims to produce a jointing structure in which a rotor and a shaft are *firmly* jointed. See, col. 1, lines 12-17, inter alia. Rather than firmly jointing the pressure sensor and housing, the instant claims attempt to actually allow some lateral movement. Were a rigid or firmly jointed attachment used, mounting stress sensor error could be introduced to pressure readings from such a sensor – destroying the purpose of the sensor. Since the combined structure would not function as intended, there cannot be any motivation to combine these references.

Therefore, Appellants respectfully request the withdrawal of the rejections to claims 1-12.

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**SUMMARY**

The Appellants respectfully submit that claims 1-12 fully satisfy the requirements of 35 U.S.C. §§102, 103 and 112. In view of the foregoing, favorable consideration and early passage to issue of the present application is respectfully requested.

Dated: September 19, 2006

Respectfully submitted,  
Daniel J. Bratek

  
\_\_\_\_\_  
GARY J. CUNNINGHAM,  
Registration No. (33,488)  
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Scptember 19, 2006  
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## 10. APPENDIX

1. A method of assembling a high pressure sensor with a knurl press-fit for use in an automotive environment, the method comprising the steps of:

providing a pressure port having a material with a first hardness and a housing having a material with a second hardness less than the first hardness, the pressure port having a mounting boss and the housing having a receptacle for receiving the mounting boss;

configuring the mounting boss of the pressure port with knurls thereon, the knurls oriented parallel to an axis of the pressure port; and

pressing the mounting boss of the pressure port into the receptacle of the housing along a direction of the axis such that the knurls deform the receptacle of the housing to conform about the knurls to define a semi-rigid mount.

2. The method of claim 1, wherein the configuring step includes configuring a shoulder on the mounting boss, and whercin the pressing step include pressing the mounting boss into the receptacle of the housing up to the shoulder.

3. The method of claim 1, wherein the providing step includes providing a stainless steel pressure port and an aluminum housing.

4. The method of claim 1, whercin the providing step includes providing a length of the knurls that is less than a depth of the receptacle.

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5. The method of claim 1, wherein the configuring step includes configuring the knurls of the mounting boss and the receptacle to have an interference fit.
6. The method of claim 1, wherein the configuring step includes configuring the mounting boss with straight knurls.
7. The method of claim 1, further comprising the step of applying a seal to the press fit area to seal the pressure port.
8. A method of assembling a high pressure sensor with a straight knurl press-fit for use in an automotive environment, the method comprising the steps of:
  - providing a pressure port having a material with a first hardness and a housing having a material with a second hardness less than the first hardness, the pressure port having a mounting boss and the housing having a receptacle for receiving the mounting boss;
  - configuring the mounting boss of the pressure port with straight knurls thereon, the straight knurls oriented parallel to an axis of the pressure port, the mounting boss also configured with a shoulder at a first end of the straight knurls; and
  - pressing the mounting boss of the pressure port into the receptacle of the housing along an axial direction of the pressure port up to the shoulder such that the straight knurls deform the receptacle of the housing to conform about the straight knurls to define a semi-rigid mount.

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9. The method of claim 8, wherein the configuring step includes configuring the straight knurls to have bevel on an end thereof.

10. The method of claim 8, wherein the providing step includes providing a hardened stainless steel pressure port and an aluminum housing.

11. The method of claim 8, wherein the configuring step includes configuring the straight knurls of the mounting boss and the receptacle to have an interference fit, and wherein a length of the straight knurls is less than a depth of the receptacle.

12. The method of claim 8, further comprising the step of applying a silicone glue to the press fit area to seal the pressure port.

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Evidence Appendix

None

Related Proceedings Appendix

None.